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ABSTRACT

Offering a contribution to additional clarity in the debate about the viability of "rural development" as an explanatory concept and program of action, the paper presents details of a causal model which underlies the approach to rural development taken by a W. K. Kellogg Foundation supported program in eastern Washington called "The Partnership for Rural Improvement (PRI)." Assumptions indicate the scope of concern as a prelude to discussion of the useful attributes of a well-conceived rural development model. Graphic and narrative forms (including process, structural, and functional requirements) describe specific characteristics of the PRI model. Data collected over the five-year period since the model was initiated in 1976 illustrate and preliminarily test specific "middle range" theoretical generalizations. Surveys, case studies, client assessments, detailed interviews with selected program participants, and content analysis of program documents provide evidence concerning the generalizations. Evidence suggests that the model operates effectively and that it has potential for successful transfer to regions beyond where it has initially been operationalized. Nonetheless, further research would undoubtedly be helpful in expanding the conceptual and operational utility of the model. (Author/NEC)

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TOWARD A CONTEMPORARY RURAL DEVELOPMENT MODEL: THE PARTNERSHIP FOR RURAL IMPROVEMENT

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ABSTRACT

The paper presents details of a causal model which underlies the approach to rural development taken by a W. K. Kellogg Foundation supported program in eastern Washington called "The Partnership for Rural Improvement (PRI)." Assumptions are presented to indicate the scope of concern as prelude to discussion of the useful attributes of a well-conceived rural development model. Specific characteristics of the "PRI" model are described in graphic and narrative form, including process, structural, and functional requirements.

Data collected over the five-year period since the model was initiated (in 1976) are used to illustrate and preliminarily test specific "middle range" theoretical generalizations and derived from the operation of the model. Evidence concerning those generalizations has been gathered by means of surveys, case studies, client assessments, detailed interviews with selected program participants, and content analysis of program documents.

The authors conclude that sufficient evidence has been generated to suggest that the model operates effectively, and that it has potential for successful transfer to other regions beyond where it has initially been operationalized. Nonetheless, further research would undoubtedly be helpful in expanding the conceptual and operational utility of the model.

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INTRODUCTION

The viability of "rural development," as an explanatory concept and program of action, has been vigorously debated among sociologists, economists, planners, and many government officials at local, state, and federal levels. There is widespread disagreement over an appropriate definition for the concept, and even greater dissensus over policies, programs, research, and actions that ought to be taken under the rubric of rural development (Hobbs, 1980). This paper offers a contribution to additional clarity in the debate; it seeks to highlight central elements, processes, structural components, and substantive knowledge appropriate to a development model derived from a social science perspective.

The general model is based in part on: (1) the theoretical propositions which led to the initiation of a W. K. Kellogg Foundation supported program in the state of Washington (The Partnership for Rural Improvement); and (2) the theory derived from research, evaluation, and accumulated experience since the program began. Two major thrusts are employed: (a) the specification of a sequence in social process and structural development which begins at the micro (individual, small group) level of social organization and extends to macro (multi-community, multi-organization) levels; and (b) the identification of a systematized knowledge and skill input system which supplies substance to the elements of process and structure.

A historical sketch and basic assumptions of the "partnership" concept provide initial background. We then focus directly on the desirable attributes of a contemporary rural development model. Specific characteristics of process, structure, and functional components are then systematically

described and sequentially diagrammed. Measurement issues are introduced as they apply to research and evaluation methods required to "test" the model. A discussion of implementation in eastern Washington is intended to clarify the relationship between concepts, theory, measurement, and viability. Finally, a concluding section attempts to draw generalizations which may have utility in rural development contexts beyond the confines of the PRI experience.

Although the model has been under test for five years (since 1976), and appears viable in most respects, additional research and evaluation are clearly in order. Diffusion is underway in a new region of eastern Washington, accompanied by research and evaluation activities. However, tests in other states (or nations) will be required to fully verify the theory presented here.

The Partnership Concept

The Partnership for Rural Improvement (PRI) was formally initiated in 1976, supported in major part by a grant of nearly $1 million from the W. K. Kellogg Foundation. Preparatory activities were initiated in 1973 as prerequisites for securing the involvement of groups, organizations, and communities required to test the initial program design. Similarly, components of the model were in some degree further tested under the sponsorship of Title V, Rural Development Act of 1972, beginning in 1974. Nonetheless, major foundation funding was the catalyst which enabled the experiment to emerge as a viable enterprise involving a wide range of individuals, groups, organizations, and communities. It has since come to represent a specific approach to rural development with selected unique features quite unlike any prior "models."

PRI has initiated or participated in several hundred projects, ranging in scope from single small group meetings to major multi-organization and multi-community activities involving hundreds of people from throughout the state of Washington (and occasionally several other states). The general scheme presented here provides the rationale for the initiation of individual projects, but most such projects do not utilize every component of the model.

The socio-environmental setting includes fifteen counties in eastern Washington and the organizations which impact the region from local, state, and national levels. The organizational headquarters is located at Washington State University, but offices, staff, and contributors are geographically dispersed throughout the region. Files of earlier reports on the program are available at each of four multi-county regional offices,

although the most comprehensive records are maintained at Washington State University and Eastern Washington University.

Assumptions

Rural communities vary widely in richness of local resources and access to external resources. In general terms, however, statistics derived from the U.S. Census and a host of scientific studies firmly indicate that rural people and environments are at a disadvantage vis-a-vis urban locations. Whether viewed in terms of institutional structures, resources, developed governmental procedures, or the general social organization for applying knowledge and skill to resolution of social, economic, political, and ecological issues, rural areas typically compare unfavorably with urban locations (Tweeten and Brinkman, 1976; Carlson, Lassey and Lassey, 1981).

Such an assumption suggests a continuing need for improved procedures and institutional structures for resolving typically rural issues. A further assumption is that generation of new knowledge and skills applicable to rural regions has proven inefficient, in major part because social, political, and economic mechanisms have not been available to efficiently incorporate social science knowledge and skills into problem resolution processes (Hobbs, 1980; Dillman and Hobbs, in press). The proposed model systematically links knowledge and skill generating structures with a sequence of social organizational mechanisms which focus on problem resolution in all forms of social grouping within rural regions. In addition to these basic assumptions about rural areas, at least nine additional specific assumptions underlie this effort at model building:

1. The development of socio-cultural systems in general, and local social systems in particular, is the central means through which

humans organize to interact with biophysical environments in achieving their goals (Dunlap and Catton, 1979).

2. Any long range problem resolution system must be adapted to the ecological constraints or limits of biophysical systems, at local, regional, and even biosphere levels (Catton, 1980).
3. A collaborative approach to the resolution of social and environmental issues is generally more productive than conflict oriented approaches. However, for collaboration to be fruitful, understanding of social processes and human interaction is as essential to planned development--as is appreciation of structural mechanisms and the functions they are intended to perform (Bennis, Benne, Chin, and Corey, 1976). The collaborative approach to rural development implies that individuals, groups, organizations, and communities can find common interest in a regional mechanism which incorporates development of social process, adaptation of social structure, and re-interpretation of functions to be performed through social organization.
4. Many of the undesirable impacts of rural growth or decline stem from inadequate adaptation or inappropriate development of rural social organization. Misdirected development of such specialized systems as knowledge and skill transfer networks is particularly evident (Findlay, Gilmore, and Cebotarev, 1980).
5. As a consequence, rural social systems are often maladapted or mismatched to the biophysical environment, and thus fail to attain socio-cultural and biophysical stability over time (Vickers, 1970; Michael, 1973; Catton, 1980).

6. Rural problem resolution and policy development will be effective and dfficient to the extent that they proceed from a solid base of scientifically valid, reliable, cumulative, and conceptually integrated knowledge (Freese, 1979). Although there may be many "models" of rural development, well-grounded theory plays a pivotal role in improving the models; that is, the processes and products of science are of benefit to human and environmental well-being (Havelock, 1973b).
7. A sufficient pool of applicable knowledge and skill is available to provide confidence in deliberate efforts to improve social processes, interaction systems, social structures, and functions of social organization (Rothman, 1974; Lindquist, 1980).
8. The mere presence of such a knowledge and skill base is insufficient to guarantee the generation of helpful changes in rural regions. A viable rural development system requires an adaptive (or sometimes radical) shift in social organization (Moe, 1973).
9. Political willingness of the relevant social units is nonetheless a necessary predisposing factor in deliberately planned rural development. Participation cannot be required (Blakely, 1979).

If these assumptions are valid, the issue becomes: how does one take account of their consequences in creating an improved rural development model? A new "model" is needed which, more nearly than prior models, conforms to the current social and environmental conditions while incorporating accumulated knowledge from science and experience. The creation of an improved model is assumed to be a powerful and highly practical tool, if it contributes to understanding and analysis, as well as implementation, of rural development.

ATTRIBUTES OF A USEFUL RURAL DEVELOPMENT MODEL

A "model" is defined for our purposes as a formalized identification of relationships between specific variables (or sets of variables) to form a causal sequence of activities or actions leading to a predicted outcome. It is a simplified conceptual system which displays variables and interactions that occur among them. A model is necessarily less complex than the phenomena to be represented or explained; that is, only the central and most critical variables are identified, and only part of the total variance in the system is explained. Models are usually based on a set of limiting assumptions such as those outlined above. Excellent discussions of the model building process are available and need not be elaborated here (Lave and March, 1975; Stogdill, 1970; and Hawes, 1975).

A model may be generic or it may simply refer to a case example. The proposed model is intended to be generic, but is concretely illustrated by the Partnership for Rural Improvement. When variables in a generic model are converted to precise numberical values, and relationships between variables are specified, the model can become quantitatively causal.

The analytical construction of such models can perform a highly useful role in the development of scientifically generated theory. If theory construction is to be productive, however, the process by which models are evolved must be based on valid concepts and systematic criteria. Concepts are valid to the degree they represent empirical reality; systematic criteria must lead to integration of concepts in a form that coherently accounts for a given set of phenomena (Zaltman, Pinson, and Angelmar, 1973; Argyris and Schon, 1976).

"Middle Range" Models

Middle range analysis is intended to develop an interrelated and integrated series of concepts which eventually become empirically validated in a matrix of established relationships (Rogers and Shoemaker, 1971). Furthermore, middle range generalizations represent a logical compromise between: (a) propositions that are so general as to be difficult to apply or test, and (b) narrowly stated hypotheses which lack sufficient scope to be particularly useful (Michael, 1973).

The methodological procedures discussed later are considered appropriate for testing middle range theory. Caution is appropriate, however, since theoretic over-simplification may limit generalizability; the phenomena involved in rural development derive from very complex socio-cultural and biophysical systems rather than single independent and dependent variable pairings. While some of the generalizations associated with this model may be strongly "grounded" by a variety of rigorous investigations, other propositions will necessarily have weaker empirical foundations. Nonetheless, the identification and organization of concepts into causal or relational generalizations has the "heuristic" value of suggesting a basis for present theory and future empirical research (Zaltman, Pinson, and Angelmar, 1973). The following example illustrates the utility of "middle range" theory construction; a simplified and generic version of a very complex enterprise can be presented so as to enhance understanding without exceeding the limit of cognitive comprehension.

An Illustration

The primary components of a generic "dialogue" model (a basic component of the PRI "theory") are diagrammed in Figure I (Havelock and Lingwood, 1973). Note that two of the essential elements are "dialogues" or "transactions" between two other elements; further, the entire macrosystem is affected by an observer (evaluator) who is also affected by the macrosystem. It is the dialogue between the two major elements (Nodes "A" and "B") that forms the core of the model. The dialogue is comprised of a stream of ongoing mutual transactions--comparable to the theory of "transactive planning" which has become prominent in many schools of rural and urban planning (Friedmann, 1973). The configuration forms a model which is broadly applicable and logical (Havelock and Lingwood, 1973).

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INSERT FIGURE I ABOUT HERE
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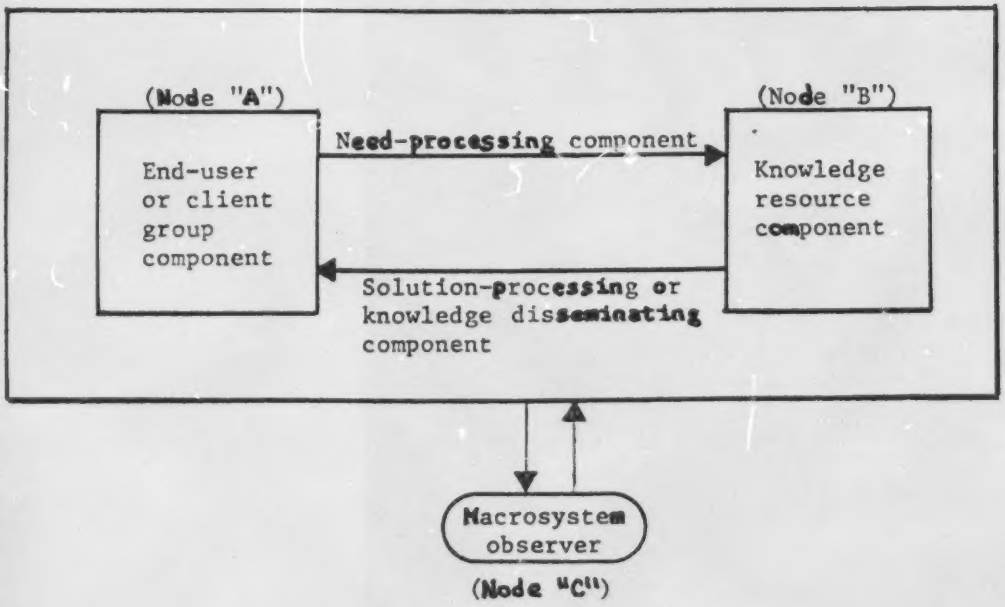
When an individual, group, organization, community, or region is "competent," or has the developed capacity, to meet their own resource needs, there is little incentive to initiate a dialogue with external resource providers. However, if a social unit defines a need or goal which requires external resources, this becomes the basis for initial exploration of external sources of assistance. A third node can therefore be introduced, through intervention initiated by local individuals or through need sensing activities of external social units. In any event, the intervention "act" starts the linkage between the two primary nodes, "A" and "B." Two partially overlapping dialogues result (see Figure II): (1) between the unit supplying the needed assistance and the linking unit, and (2) between the linking unit and the ultimate user or client group.

FIGURE I

DIALOGUE MODEL



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INSERT FIGURE II ABOUT HERE

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A viable linkage network requires efficient communication and coordination between components of the macrosystem. The linking component is in the position of intermediary so as to provide such communication and coordination.

The focus here is on the most fundamental process and structure of a macrosystem for knowledge or skill application. This basic configuration can be elaborated to include many more components on as many hierarchical levels as needed and is widely generalizable.

Toward A More Comprehensive Model

Several criteria for an "optimum" model have been delineated (Havelock and Huberman, 1977:69). Such a model:

(1) is highly interconnected (allowing a free and rapid flow of information, products, and services among the critical nodes);

(2) is highly cohesive (a sense of common purpose, interdependence, shared identity);

(3) is need sensitive (highly attentive to the on-going and emergent needs of client groups);

(4) efficiently and effectively uses its resource inputs (from immediate and remote environments);

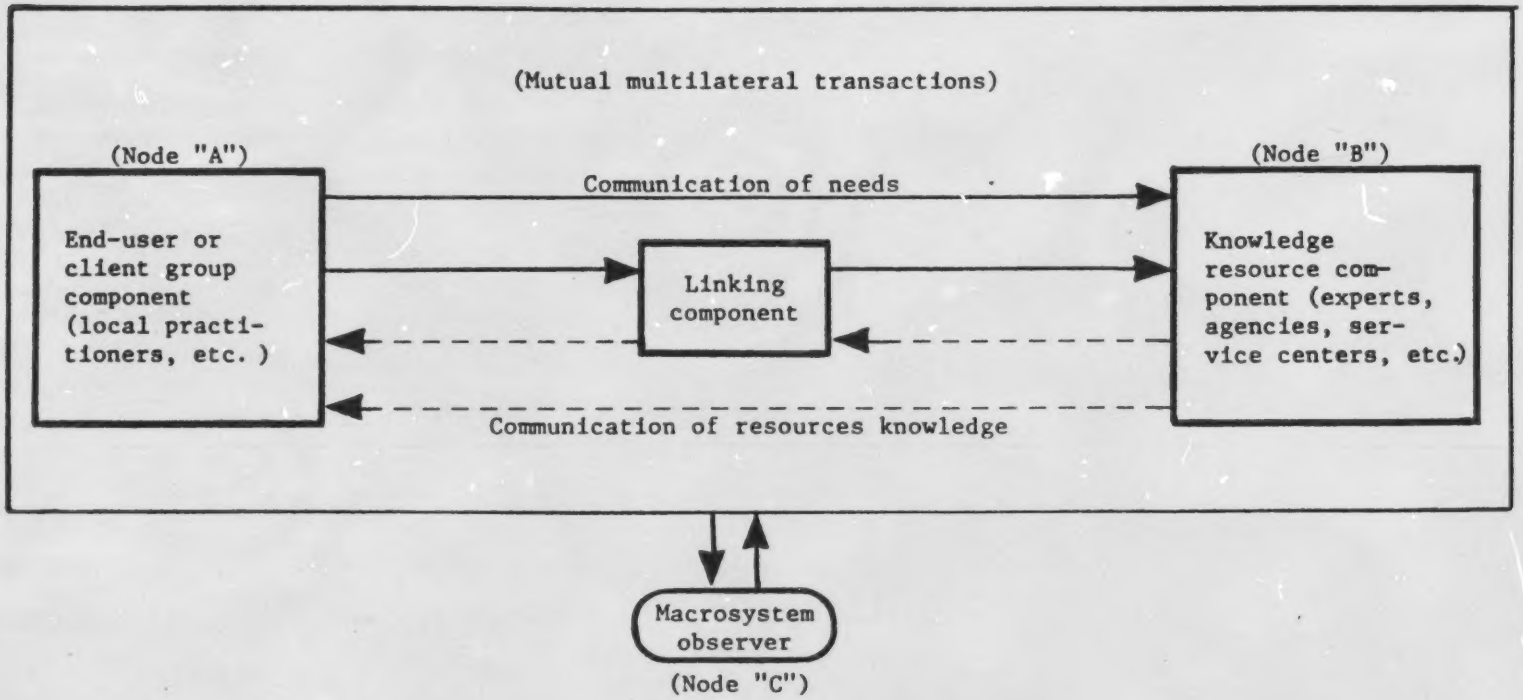
(5) has a political will and capacity to carry on an active program;

(6) maintains a structure and process conducive to efficient and effective problem solving activities;

(7) has a capacity to monitor and rank its outputs (in terms of their importance);

FIGURE II

MACROSYSTEM MODEL OF A PROBLEM-SOLVING DIALOGUE



(8) has a capacity to use its output indicators for re-organizing future goals and means, and

(9) is open to change based on valid and reliable assessments of a changing environment.

A rural development model can be assessed on the basis of each of the nine criteria. Other characteristics could of course be added, but these nine categories indicate in general terms what an optimum model might look like.

CHARACTERISTICS OF THE PRI MODEL

As noted earlier, the PRI model has three major dimensions: (1) a process sequence indicating the order in which activity elements occur, (2) a structure or organizational system, and (3) a substantive or functional component, indicating the knowledge and skill content of the sequence and structure. The sequence begins at the micro level with actions (interventions) taken by individuals and small groups; size of social unit and complexity of interaction increase as the model develops to a macro (intercommunity and interorganization) level resulting in rural development, increased quality of human life, and improved biophysical conditions. The functional dimension focuses on a knowledge and skill cumulation system which must be in place if the model is to be effectively implemented.

The diagram in Figure III illustrates, in attenuated form, the relationship between process, structure, and the knowledge-skill functions. The rural socio-environmental setting was determined to be inadequately structured prior to the initiation of PRI, and did not exhibit an effective process for developing new structure; local and external knowledge and skill (capacity) were not productively used to resolve important issues. The model was therefore designed to develop new process and new structure which would cause knowledge and skil

for problem resolution to become more accessible. Ultimately, the goal of the new model is an optimum rural development system--a preferred state--which leads to enhanced quality of life and biophysical environment.

The process requires, and depends upon, an incremental progression from "micro" structure--individual and small group development--to "macro" structure, or development of groups of communities and organizations. The sequence is initiated systematically through time. The techniques employed to implement the several forms of development are based firmly on knowledge, skills, and experience derived from the social sciences.

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INSERT FIGURE III ABOUT HERE

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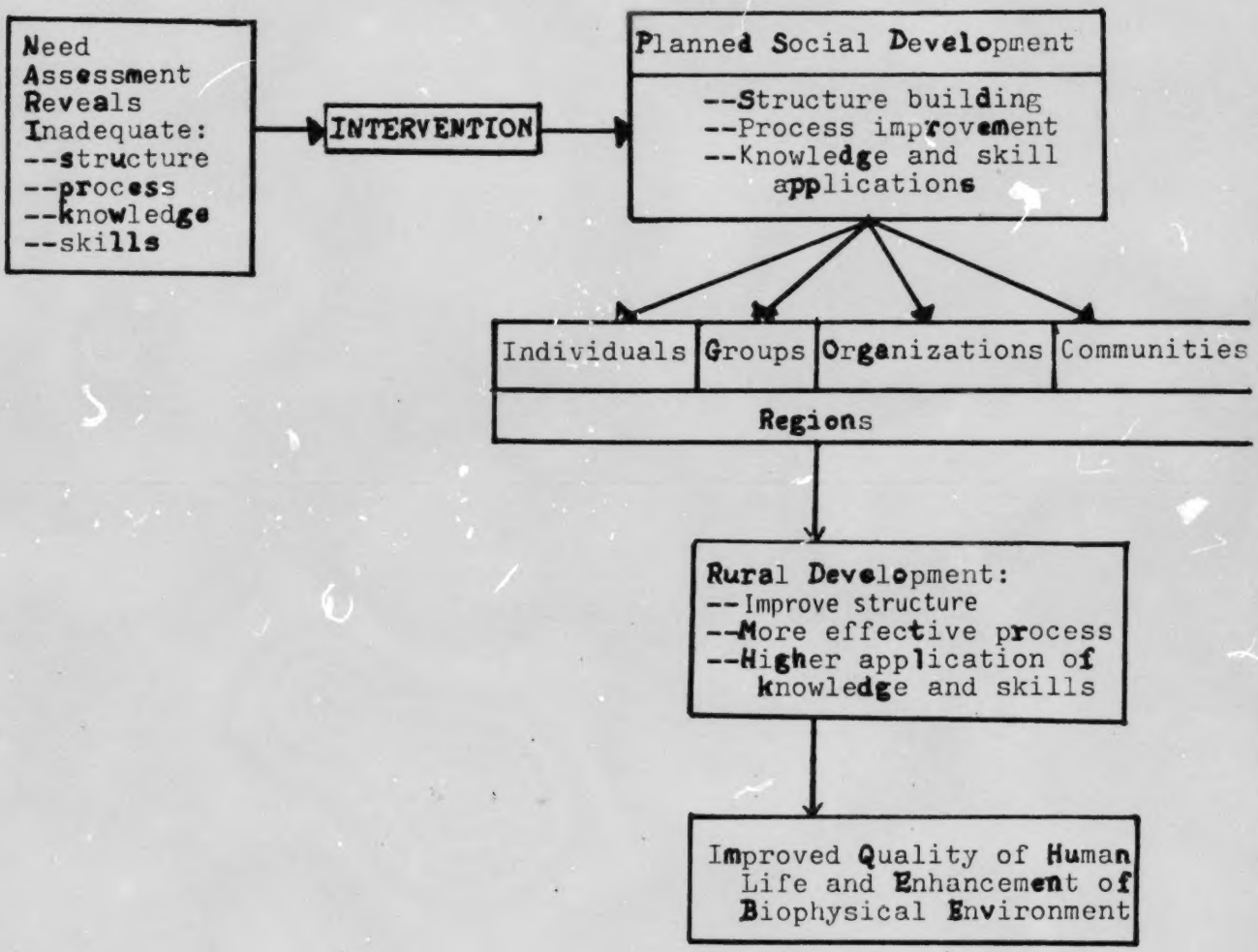
Greater detail is added to components of the model in Figures IV through VII. Figure VIII summarizes the preceding four diagrams. It should be emphasized that the diagrams are intended to highlight the major concepts and categories of variables. Although the concepts are labeled, ordered, discussed and certain sequential causal effects are noted, the process is interactive, that is, variables discussed initially are affected eventually by variables introduced later. The entire system is dynamic and grows through time.

Initiating New Process, Structure, and Functions Through Intervention

Planned and orderly rural development is initiated through formal intervention invited by individuals, groups, organizations, communities, political jurisdictions, or other units in the target region; in some instances, intervention is initiated by external units which perceive the region to be in specific need of assistance which is not available from local social units (see Figure IV; Rothman, 1974; Argyris, 1970; Zaltman and Duncan, 1977).

FIGURE III. Elements in Social Development of Rural Areas



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INSERT FIGURE IV ABOUT HERE

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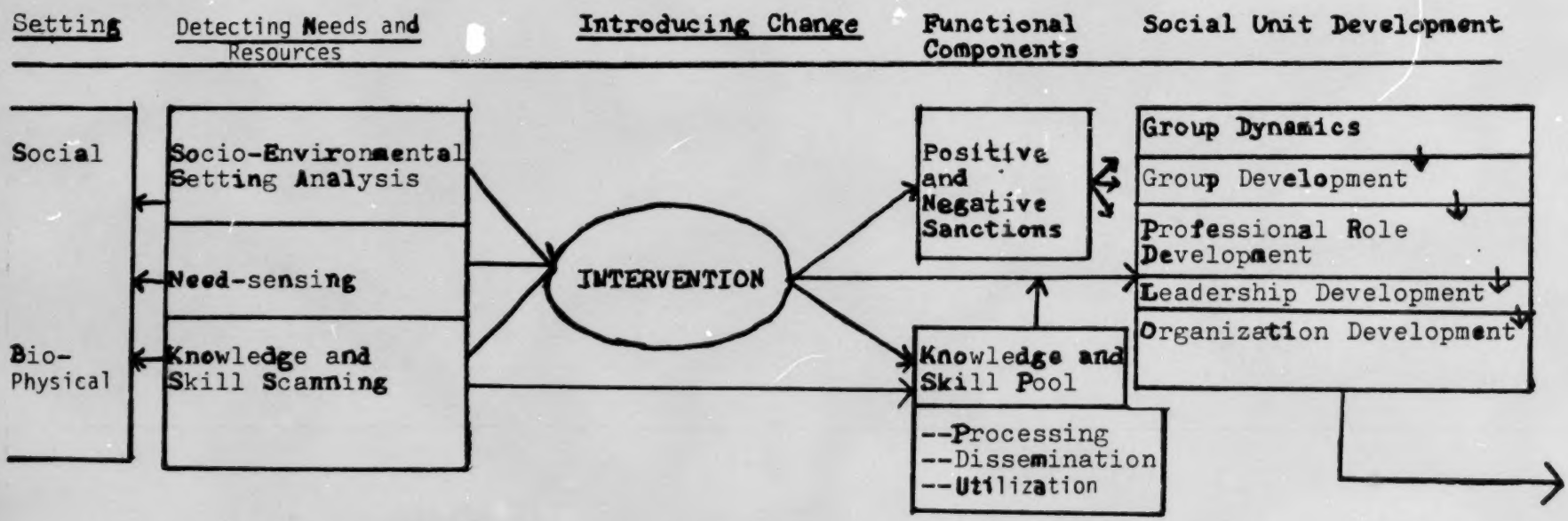
An intervention will be most appropriately "targeted" if preceded by need and resource assessment activities, including, at least, socio-environmental setting analysis, formalized need sensing, and knowledge/skill scanning within the rural region to be affected. The introduction of change through formal intervention activities will draw upon the existing knowledge/skill pool and will consciously attempt to manage positive and negative sanctions as social units are explicitly developed through intervention.

The reward-sanction system is a key ingredient in the initiation of intentional development programs. New social arrangements are extremely fragile unless supported by formal and informal rewards which help participants to over-ride formerly ethnocentric attitudes, behaviors, and internalized value systems. An intentionally designed reward-sanction system must be part of each stage in the process of development (Lippitt and Lippitt, 1978; Zaltman and Duncan, 1977).

Although intervention can occur initially through contacts with isolated individuals, groups are invariably involved or formed as the proposed development is introduced to organizations or communities. The internal dynamics of these initial groups will be critical to continuation of the intervention. Knowledge and skill in group dynamics, as well as knowledge of the context (socio-environmental setting) in which the group operates, will be important to the success of the intervention (Bradford, 1978). Furthermore, the group(s) which assume(s) responsibility for supporting

Figure IV. Initiating New Process, Structure and Functions Through Intervention



the intervention(s) will need to understand and use alternative strategies for effectively impacting the larger system. Such groups are more likely to be successful if they engage in group development while attempting to implement the goals associated with the intervention (Kirschenbaum and Glaser, 1978).

New or adapted professional roles are likely to be needed. The roles must be supported by a wide range of knowledge and skills; they must be particularly adept at "facilitating" the work of the social unit(s) which attempt to implement the intervention. Furthermore, the individuals functioning in these new roles must be skilled in leadership, followership, and group development, so as to enable a variety of individuals and constituencies to effectively participate in the intervention (Rothman, 1974; Leadley, and others, 1974; Bennis, Benne, Chin, and Corey, 1976).

Leadership development is central to the long term support and acceptance of social innovations. Ultimately, local residents--in groups, organizations, communities, and regions--must carry responsibility for sustaining new or improved conditions. Appropriate training or development of leaders will have lasting impact on the productive participation of citizens in the socio-environmental setting impacted by a deliberate intervention (Howell, Weir, and Cook, 1979; Howell, in Lindquist (ed.), 1980:169; Lassey and Fernandez, 1977).

New roles, leadership development, and group development will provide the basis for organizational development on a broader scale than would otherwise likely occur. Organizations must accept and support "development" if it is to be permanently implemented. Further, organizations at local, regional, state, and national levels, if effectively involved,

can provide access to influence and resources that might otherwise be diverted elsewhere (Burke, 1978).

Establishing Structure, Linkages, and Social System Development

Organizational development will lead to greater social exchange among groups, organizations, and communities (see Figure V). The exchange will

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INSERT FIGURE V ABOUT HERE

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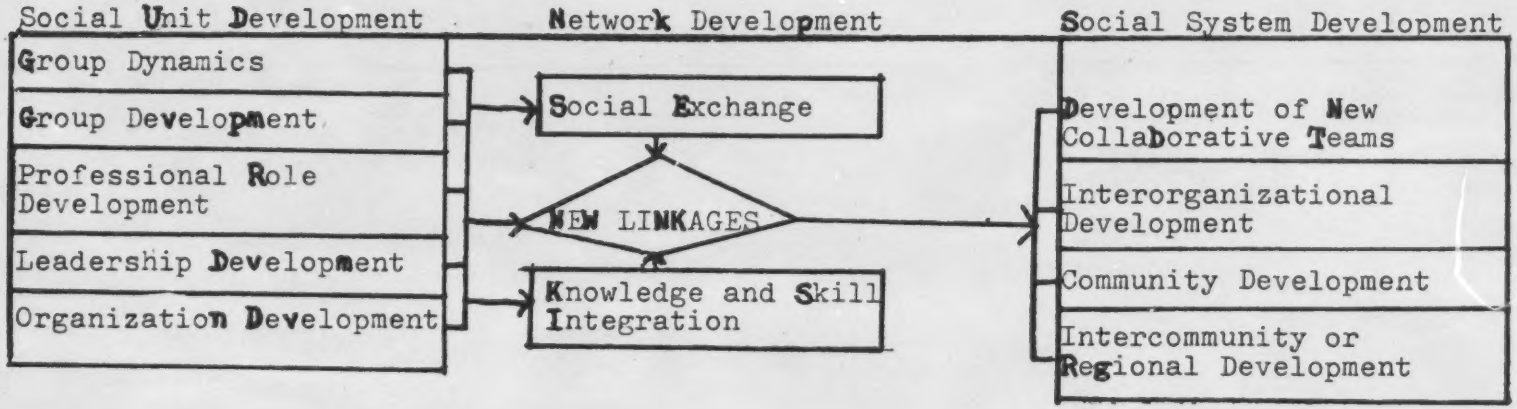
involve outright collaboration in some instances, but will also include bargaining for political, social, or economic advantage; organizations will tend to be competitive unless advantages of collaboration are overtly recognized and promoted (Moe, 1973; Bennis, 1966).

Social exchange among organizations will lead to articulation of common goals and perceived mutual advantage in the initiation of new formal exchange networks as devices for formalizing further interactions. Individuals and organizational sub-groups will be identified to assume responsibility for maintenance of the formal network (Mulford, Klonglan, Winkelpleck, and Warren, 1975). Strong linkages are in part a consequence of developed knowledge and skill integration. The organizations become linked by common understanding, overlapping goals, defined relationships, and commitment to collaborate (Havelock, 1969; Mulford, Klonglan, Winkelpleck, and Warren, 1975).

Stronger linkages lead to development of working teams representing organizations associated with the new network. The new teams will, in most cases, require considerable learning as they attempt to understand the common goals, procedures, and collaborative activities. They will

Figure V. Establishing Structure, Linkages and Social System Development



particularly need to gain skills in articulating the value of these new activities to their peers and superiors within their home organizations. If rewards are to continue flowing from former, as well as newer, organizational systems, such capacities for articulation will be critical (Francis and Young, 1979).

The new working teams will often focus their goals, procedures, and activities on interorganizational and community development, either by invitation of individuals in communities and organizations or through deliberate intervention by team members having no prior formal association with locality groups or organizations. Community development is likely to be much more efficient, effective, and continuous if supported by teams generated from the preceding developmental stages as contrasted to developmental efforts in which teams are not explicitly formed (Christianson and Robinson, 1980; Zaltman and Duncan, 1977). Individuals representing target communities are incorporated in teams working with local projects; the experience and learning will tend to increase the ability of local people (as well as outsider team members) to work effectively in communities, thus increasing the long term capacity of the community to continue developing (Fessler, 1976).

The logical consequence of the process described above, from intervention through community development, is greater interorganizational development and intercommunity development. That is, the initiation of greater social exchange, new formal networks, stronger linkages, and new working teams contributes to concurrent and interactive development of organizations and communities. Many of the issues to be resolved will be common to several organizations, and many community issues will be

common to several communities. Consequently, attempts at issue resolution will result in learning and experience which is diffused and applied broadly in the socio-environmental setting (region) where the communities are located and where organizations have branches or outreach responsibilities (Cox, Erlich, Rothman, and Tropman, 1974).

Outputs of Social System Development

Rural development is the "output" of the sequenced activities when coupled with the new structure and functions associated with the new knowledge/skill production-storage-scanning dimensions of the model (see Figure VI).[1]

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INSERT FIGURE VI ABOUT HERE

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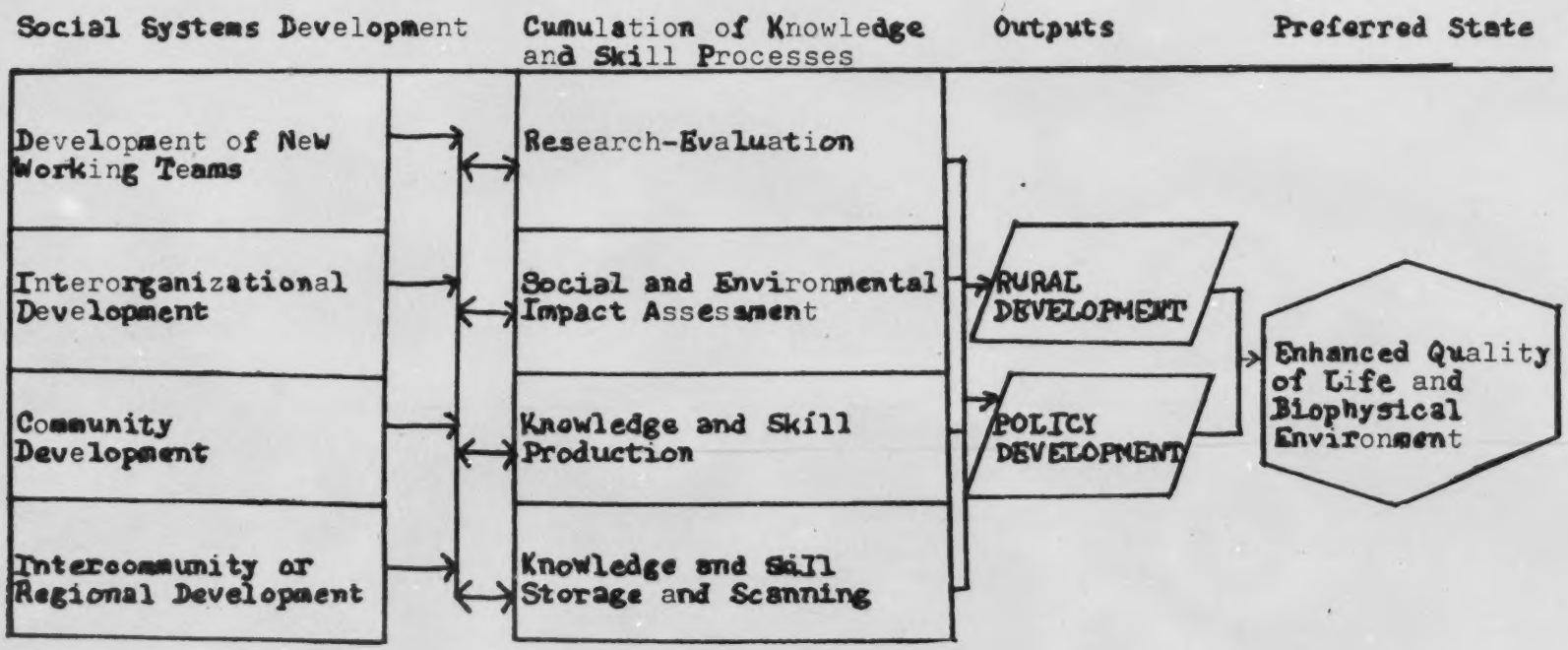
Research and evaluation, as well as social and environmental impact assessment, serve as the methods through which knowledge is produced, adapted, stored, scanned, and eventually integrated into the social development system. These procedures serve to help correct errors while also serving as the basis for cumulation of knowledge and skill leading to improved theory and a more refined model (Miller, 1979; Freese, 1979).

Moreover, knowledge cumulation can serve as the basis for development of improved public policies for rural areas. Local, state, and national governments will have access to a more useful knowledge and skill base as

---

[1] Furthermore, it may be useful to view the model as an operational definition of rural development containing many of the attributes considered essential to an improved conceptualization policy requirements (Hobbs, 1980; Cornman and Madden, 1977).

Figure VI. Consequences of Social System Development



they seek to develop more appropriate and helpful rural policies and public programs (Tweeten and Brinkman, 1976; Ford, 1978).

Although enhanced quality of human life and biophysical environment is the preferred future state, achievement of such a global goal is dependent upon the "match" between the values, goals, and actions taken through the social system and the carrying capacity of the biophysical system. That is to say, it is inappropriate to equate "rural development" and "enhanced socio-environmental quality" (Dunlap and Catton, 1979; Catton, 1980).

The System for Cumulation and Application of Knowledge and Skill

The process, structure, and interactions described above will have marginal utility unless knowledge is accumulated, made generally available, and applied to new problems in other rural regions. That is, the process-structure-interaction part of the model must be undergirded by systematic procedures for assuring that the values, needs, and goals of rural people--as well as ecosystem enhancement requirements--are related directly to the institutions responsible for knowledge and skill application (Havelock and others, 1974; Rothman, 1974). The "functional" components of the model are separately elaborated in Figure VII.

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INSERT FIGURE VII ABOUT HERE

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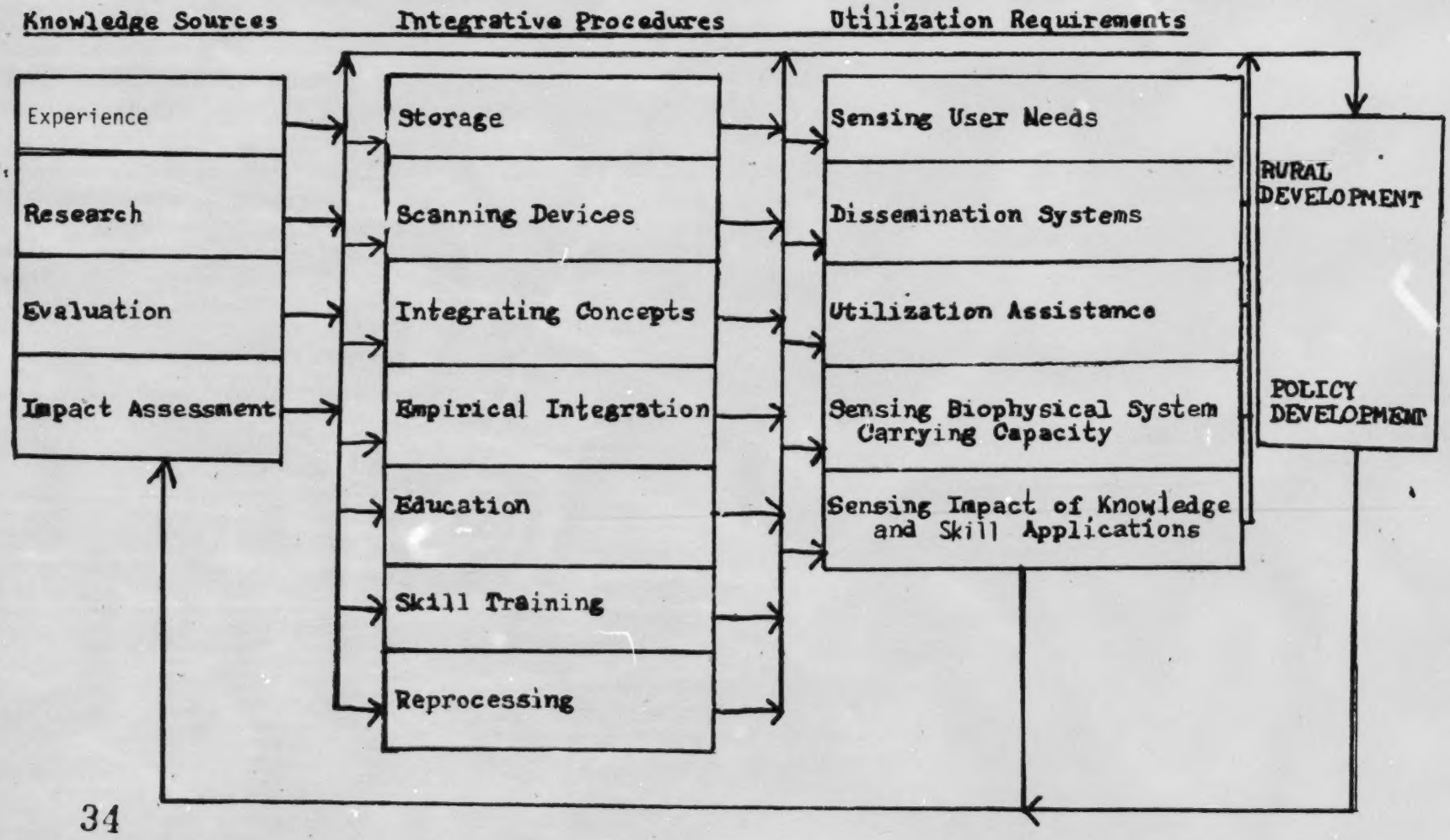
The development and implementation of the model in a specific setting is only legitimate if there is a specific set of values, needs, and goals identified by a constituency in a biophysical environment. The "sensing" activities determine whether these attributes can be at least partially

Figure VII. A System for Knowledge and Skill Cumulation



filled by importing resources (intellectual or material) from outside the immediate locality. It is this sensing component which is the primary social guidance mechanism for strategies and policies (Friedman, 1973).

When existing knowledge is inadequate to resolve defined (through "sensing") issues, new knowledge production activities are appropriate. Knowledge must be generated, or adapted, in a form which is accessible and transmissible to potential users. Knowledge production or adaptation activities, moreover, do not necessarily occur remote from potential users. These activities can be undertaken by teams of users when local knowledge and skill (capacity) are present.

A knowledge storage and scanning system enables user groups to become relatively independent in initiating issue resolution activities. Current technology provides potential local access to computerized on-line information search and retrieval services. Information (knowledge/skill) directories can be searched through relatively inexpensive local computer terminals or through telephone access to terminal locations.

User groups usually prefer specific kinds of "knowledge" or "skill" packages. University faculty, for example, usually want unabridged versions of research reports and case studies. Other users prefer knowledge packaged in short summary form ("executive summaries"). Task-oriented groups often prefer simplified statements describing exactly what the knowledge means to their programmatic setting; such groups may even prefer precise directions as to what they should consequently do. Knowledge or skills that are transformed and packaged according to identified client requirements will prove most useful. Despite efforts at such packaging, many potentially useful sources of helpful information are

dormant on shelves of knowledge production units, libraries, or document centers--because a dissemination system has not been developed. Appropriate dissemination systems (such as computer networks or teaching programs) are critical to successful application of knowledge and skill.

The effectiveness of the present model obviously depends upon the extent knowledge and skill are continuously used. Utilization can occur rapidly and appropriately in some high capacity user groups without special effort. In low capacity groups, however, the situation is problematic. There is clear utility in special kinds of help to knowledge or skill users, through interpretation, encouragement, support for risk taking, guidance on implementation, or help in matching the information to the need (Havelock and others, 1974).

No strategy or policy can be implemented with absolute certainty of outcome. Most strategies or policies may result in unforeseeable consequences, either positive or negative (Johnston, 1978). Deliberate assessments of knowledge and skill impact should therefore be included as part of the larger research, evaluation impact assessment enterprise.

Components of knowledge and skill are obviously interconnected but not necessarily integrated or cumulative. Deliberate integration procedures may be essential. To the extent the model is designed with maintenance of a specific set of knowledge and skill integration and cumulation components, the likelihood of sustaining an efficient and effective model increases.

Summary Components

Each of the model components described here arise from investigation and experience documented in the literature of the social sciences. Furthermore, each of the social processes, structures, interaction patterns, and functions has been widely tested under varying circumstances. The novelty of the present model rests in the mixing, timing, and phasing of the components in a diverse rural socio-environmental setting (see Figure VIII). The literature suggests with reasonable precision how to achieve each component, but it has not been clear, until the PRI experiment, how to manage the components in combination and in a sequence which produces a dependable result.

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INSERT FIGURE VIII ABOUT HERE

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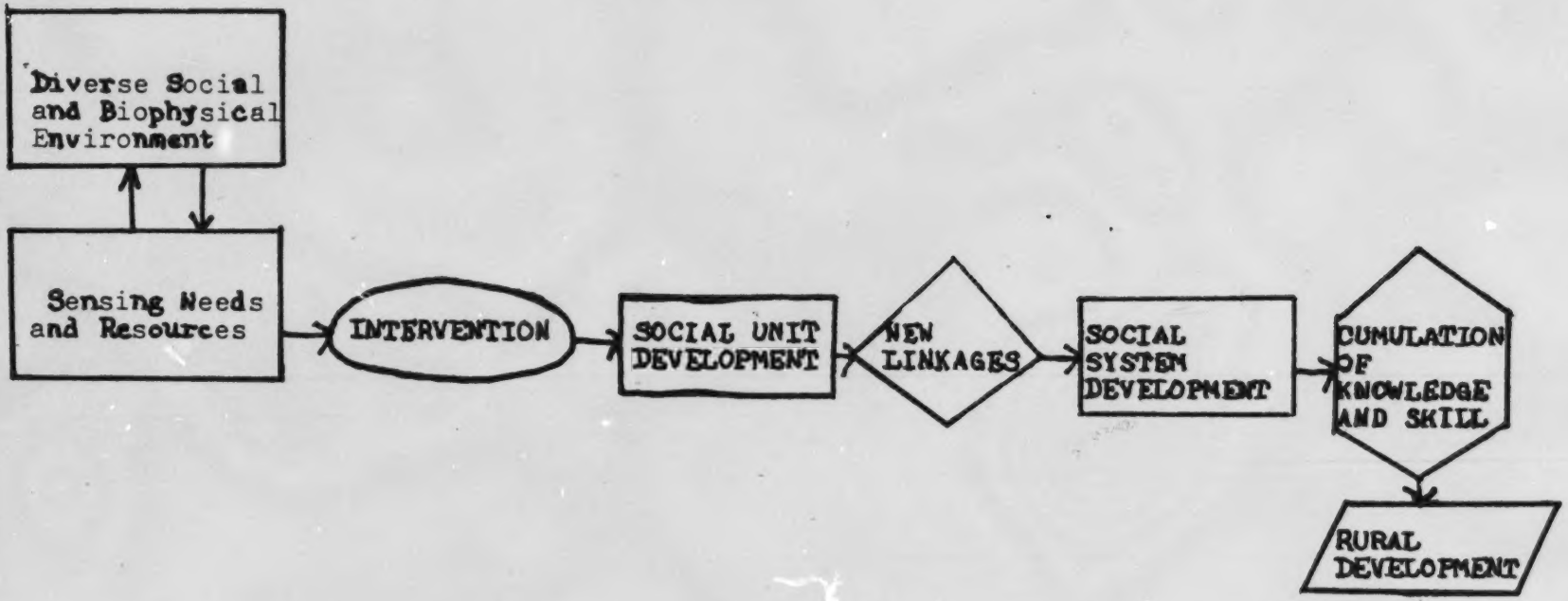
It is critical to note that the outcome indicators, which lead to judgments concerning success or failure of the model, are value laden and vary widely among individuals, groups, organizations, and communities. This characteristic of outcomes is particularly troublesome at a time of resource scarcity when shrinking potential for enhancement of individual affluence and drawing back of monetary resources from other than "essential" public programs and services typically raises the level of conflict over values, goals, and priorities.

It is possible that when outside resources (e.g., government grants, international investments, W. K. Kellogg Foundation funds, etc.) are no longer available, rewards for involvement in activities related to the maintenance of the model will be withdrawn, or negative sanctions may be imposed on individuals

Figure VIII. Summary Components of the PRI Model



and units for participating in the siphoning off of limited resources for activities that are not deemed valuable for the survival of organizations under pressure. If such behavior is to be avoided, the viability of the model must be made clear to participants, administrators, and constituents of each unit. The outcomes or products must be measured and shown to be of greater value than would result from alternative allocation of resources. This is particularly an issue for staff with joint appointments in organizational units which do not recognize (and may not overtly intend to reward) the value of participation in activities leading to "community" or "rural" development.

From General Concepts to More Specific Variables

Each of the concepts noted in the graphic model, and elaborated briefly in the narrative, can be readily divided into a series of specific variables. Moreover, the model as outlined deals only with "social" variables, when, realistically, the "social" setting interacts constantly with the "biophysical environment." The notes on measurement which follow are not intended to exhaustively treat the measurement of all possible variables; rather, the objective is simply to suggest the kinds of data which have been used to provide preliminary tests of concepts and relationships.

NOTES ON SOURCES OF DATA AND MEASUREMENT

Measurement of "middle range" model components requires a combination of obtrusive and unobtrusive methods,[1] including surveys, case studies,

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[1] Unobtrusive measures refer to research or evaluation activities, such as participant observation, which are minimally noticed by the individuals under observation, while obtrusive measures, such as surveys or experiments, are difficult to hide.

client assessment, interviews with selected participants, and content analysis of documents (Anderson and Ball, 1978; Miller, 1979; Rossi, Freeman, and Wright, 1979; Webb, Campbell, Schwartz, and Sechrest, 1971). The observations of the PRI external review team, which applied each of these methods in both 1979 and 1980, are particularly valuable to the following discussion (Larson, Madden, and Moe, 1979, 1980).

Intervention

Illustrative interventions are described in reports of PRI Program Associates, published project descriptions, case studies, minutes of PRI staff meetings, external evaluation reports, and in team problem solving reports. Analytical treatment of interventions remains to be undertaken for many projects to further document outcomes. Interviews with staff, or other program participants and content analysis of documents will provide the additional needed data (Macheracher, Davie, and Patterson, 1976).

Interviews or mail questionnaires to individual participants reveal perceptions of reward, while actual treatment of professional staff is measured by interviews with administrators. Several dimensions of reward deserve to be further examined, including (at least) salary, promotion, commendation letters, publicity, and self-perceived success in implementing components of the model (Rossi, Freeman, and Wright, 1979).

Social Unit Development

The dynamics of group processes associated with the interventions have been documented in reports of program associates, in published case studies, and in external evaluation reports. Descriptions of group development processes are available in the same reports. Interviews with program

associates and other program participants would further document group dynamic/group development processes for additional projects (Webb, Campbell, Schwartz, and Sechrest, 1971).

Measurement of professional role development consists, in part, of documenting skill and knowledge increases among PRI staff and among participants in projects, workshops, forums, or other training sessions. Numerous role changes have occurred, and both skills and knowledge increases have been systematically measured in both formal program settings and informal practice sessions. A carefully designed survey would capture further details of role development; however, content analysis of program files, to determine who has been involved in projects over time and how their skills and knowledge have improved, has provided preliminary documentation. The content of leadership development is similar in many respects to the content of professional role development. Data collection instruments for leadership development program evaluations would provide useful tools for further measurement (Howell, Weir, and Cook, 1979).

Network Development

Operation of the larger PRI network, as well as involvement of participating organizations, was measured in part by a series of case studies which systematically describe changes induced in part by PRI intervention. Documentary reports have been written at Washington State University, Eastern Washington University, Wenatchee Valley College, and in each of the multi-county units comprising the PRI region (Hagood and Lassey, 1979, 1980).

Documentation of social exchange is recorded in annual reports, external evaluation reports, staff reports, and case studies. Measurement is achieved by observing organizations or groups and noting the sequence and content of collaboration and exchange (Lassey and Hagood, 1977; Lassey, 1980).

The formal networks are described in official documents which form the contractual basis for participation in PRI. The documents are on file in PRI administrative offices.

The evidence of formal linkage is documented in sub-region reports and in annual reports. Informal linkages are also obviously of major importance to effective operation of the formal linkage system. Analysis of the informal linkage network, particularly its effects on reward systems and team development, has been undertaken in two papers (Luther and Braglio, 1978; Luther, 1981). Structured interviews with PRI staff and members of regional or sub-regional committees would provide additional data.

Social System Development

Team development is measured by content analysis of project reports which indicate participation in specific attempts to resolve community, organizational, or regional issues. Within-organization and cross-organization team formation is similarly indicated.

Measurement of community development is achieved through systematic case studies in selected locations where PRI projects have been undertaken. Evidence of increased capacity to identify and resolve a sequence of problems, or observed effectiveness in realizing new opportunities over time, is assumed to indicate community development has occurred (Blakely, 1979).

Continuing linkages, social exchange, team forming, and formal networks among organizations and among communities is the basis for measurement of intercommunity or interorganizational development. Evidence of increased levels of collaborative activity is available in external evaluation reports. Annual reports and sub-regional reports include further specific data.

Cumulation of knowledge and skills becomes evident primarily in papers produced by program staff, evaluators, or researchers who demonstrate integration and cumulation. The increased competence or capacity of program staff, collaborating unit staff, and local leaders also represents a form of knowledge and skill cumulation--observable by longitudinal survey documentation or carefully constructed case histories. New institutional structures specifically designed to facilitate knowledge and skill cumulation within the collaborating organizations are also subject to evaluation. Case examinations of such units are available (Hagood, et al., 1980).

Rural Development

Rural development was defined earlier as the composite of developments described heretofore. The measurement of rural development outcomes is therefore dependent on the measures noted above. External evaluation reports represent the most complete formal summaries of evidence (Larson, Madden, and Moe, 1979, 1980). Table I summarizes illustrative sources of data and techniques of measurement for each major segment of the model.

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INSERT TABLE I ABOUT HERE

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APPLICATION OF THE PRI MODEL TO EASTERN WASHINGTON

The Setting

Eastern Washington is a highly diverse region (see Figure IX). The grant proposal (Barron, Lassey, Grunewald, Schultz, and Jongeward, 1975) revealed, among other findings, that no concerted and broadly based effort was presently underway to support planning and development in rural eastern Washington. Furthermore, there was evidence of need for attention to a

Table I. Sources of Data and Techniques of Measurement
(Illustrative examples)

Components	Sources of Data	Techniques of Measurement
Detecting needs and resources	Surveys Publications Observation Meetings	Scales & indicators Content analysis Categorization
Intervention	Staff reports Interviews Case studies External evaluations	Content analysis Client assessment Content analysis
Functional activities: Rewards	Administrative decisions on salary, promotion, & tenure	Degree and timing of increments & decisions
	Interviews with participants	Perceptions of positive or negative sanctions
Knowledge & skill pool	Case studies of rural regions & institutions	Evidence of accessible knowledge & skill
Social unit development	Project descriptions Case studies Client assessment Interviews with participants External evaluations	Scale indicators of change Client judgments of change Observed evidence of change
Network development: Social exchange New linkages Knowledge & skill integration	Minutes of meetings Staff reports Case studies Interviews External evaluation Administrative agreements	Content analysis Evidence of new or expanded networks Evidence of formal & informal linkage Evidence of knowledge & skill integration
Social system development	Project reports Case studies Interviews External evaluation Administrative agreements	Content analysis Evidence of change Perceptions of change Judgments of change Formal indicators of change

Table I. (continued)

Components	Sources of Data	Techniques of Measurement
Cumulation of knowledge & skill	Research, evaluation, impact assessment Papers, articles, reports	Evidence of increased professional or leadership competence Evidence of new concepts, new theory, empirical verification
Rural policy development	Legislation Formal organization policy statements Behavior of organizations and jurisdictions	Content analysis Evidence of policy changes Evidence of behavioral changes
Rural development	External evaluation Research Impact assessment Experience	Evidence of issue resolution capacity Evidence of change in social units and social systems Indicators of results from policy changes
Enhanced quality of life and biophysical environment	Surveys Observation Impact assessment	Perceptions of enhanced life quality Objective measures of life quality change Objective measures of biophysical environmental change

number of specific policy problems. The primary unresolved public issues were: land use planning, management of growth resulting from mineral development, management of decline resulting from technological changes that displaced population, and application of educational resources in communities which lacked access to needed knowledge and skills (Terrell, 1971; Dillman and Wardwell, 1975).

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INSERT FIGURE IX ABOUT HERE

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More importantly, for purposes of the proposed new program, there was clearly a lack of effective and on-going collaboration among educational institutions and public agencies, which were, by legislative directive, supposed to be providing assistance to rural regions. There was no mechanism through which these entities could collectively and forcefully address the issues facing the region.

These conditions suggested the possible utility of a new organizational structure, process, and program (a "model") which would help focus resources on resolution of prominent issues. Washington State University and the Northwest Regional Educational Laboratory therefore agreed to begin the "intervention" strategy which would eventually lead to development and institutionalization of a new approach to rural development.

Intervention

The intervention process began with a series of meetings involving individuals and organizations which had not heretofore been convened. The first groups consisted largely of administrators, faculty from several disciplines, staff from the Northwest Regional Education Laboratory (NWREL),

1 Washington State University
2 Spokane Community College
3 Eastern Washington State University
4 Big Bend Community College
5 Wenatchee Valley Community College
6 Walla Walla Community College

and a representative from the Cooperative Research Service, Science and Education Administration, U.S. Department of Agriculture. The theory base undergirding these initial discussions was heavily derived from models of land grant university potential for support of rural development programs (Moe, 1973; Moe and Tamblyn, 1974; Williams and Lassey, 1974).

It was clear from the outset, however, that any new test of rural development models was not likely to be adequately supported with state or federal funds. The W. K. Kellogg Foundation was therefore contacted as a potential source of support. An administrator-faculty-staff team was formed to draft an initial proposal to be reviewed by representatives from potential collaborating units in eastern Washington. Members of the team had extensive collective experience in group dynamics, group development, leadership development, and organization development, as well as detailed knowledge of rural development issues specific to eastern Washington.

A deliberate intervention process was thus initiated. Structured interactions (group dynamics) among members of the team led to the development of increased knowledge, skill, and general competence (group development). However, some adverse influences were present in the "reward and sanction" system. Universal support for such activities was by no means present among administrators and colleagues, largely because considerable diversion of time and resources was necessary for the preparation of a thoroughly developed proposal to the W. K. Kellogg Foundation.[1] Strong

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[1] A minimum of $40,000 was estimated to have been directly expended during the three years of proposal preparation; additional contributed hours of writing, consultation, participation in meetings, and other activities associated with program development more than equaled the total direct costs.

encouragement from administrators and peers was visible to some team members, while others were discouraged. As a consequence, there was some turnover in membership; however, replacement by individuals representing the sponsoring organizational units usually occurred immediately.

As knowledge and skill of team members became explicit, "roles" were differentiated and developed. For example, some members were adept at initiating and developing contacts with potential collaborating organizations; other members were skilled in drafting material for discussion and presentation to an expanding circle of contacts. Team "leadership" developed which subsequently assumed the primary roles in preparation of the foundation proposal.

An "organizational development" process was initiated to test the interest and commitment of the sponsoring organizations. All potential sponsors were invited to participate in a formal review by a W. K. Kellogg Foundation program director responsible for rural development programs. The event was hosted by the president of Washington State University and included representatives (often presidents) of colleges and universities, state and federal agencies, county government, towns, and a variety of other organizations which had been identified as potential participants in a foundation supported program. The review served to establish a "social exchange" process among participants and provided the basis for a new "formal network" among organizations engaged in assisting rural regions.

When the W. K. Kellogg Foundation grant was awarded (May, 1976), much of the preliminary organizational development activity had been completed. The proposal drafting team had been supplemented by administrators of the sponsoring units to form the initial planning and implementation team.

Roles were further differentiated: (1) a team member was selected as acting administrator; (2) other members took primary responsibility for assuring that substantive knowledge about the region was considered; (3) group dynamics, group development, and organizational development were supported skillfully by several team members; (4) an administrator assumed primary responsibility for assuring that key norms of participating institutions were not violated; (5) another administrator served as chair of an advisory group at Washington State University; and (6) other team members contributed to specific planning of events designed to formally launch the nascent PRI model.

Social Unit Development

Although there were dimensions of group dynamics, group development, role development, leadership development, organization development, and social exchange associated with the early intervention activities, more concentrated and explicit application of these concepts began after award of the foundation grant. A three-day retreat at "Camp Field," involving representatives from supporting organizations, was convened as a deliberate effort to solidify the new formal network which would undergird group and organizational development over the long term; this event has been characterized as the most significant early application of several model components. The setting, agenda, and interactions were designed to foster common goals, cohesion, articulation of key roles, leadership development, and design of a structure for the new organization which would flexibly allow the model to evolve. Individuals arrived at the retreat typically possessed with a protective loyalty to their sponsoring organization; in

many cases, they departed as members of a cohesive group with strong interorganizational commitment as well as a new set of personal and organizational goals.

Formal leadership was selected; a network for continuing interaction was established; interpersonal and interinstitutional linkages were forged. These events allowed the program to move forward with an initial common sense of purpose. The first major step in the formation of a permanent working group had been taken. Group development has continued since the formal program launching--but not always without tension, stress, and disagreement. Group continuity does not imply total harmony, although a greater level of positive than negative sanctions was obviously essential to keep the program in operation. Deliberately created supportive professional roles facilitated cohesion, continuity, and productivity (Fernandez and Hagood, 1977).

PRI groups and organizations would have had difficulty sustaining their sense of purpose and productivity unless both task and maintenance functions were continuously reinforced. A continuing set of tasks were undertaken which were deemed central to the goals of individuals from diverse organizations (Fernandez and Hagood, 1977). Furthermore, participants felt positive about their individual contributions as well as the contributions of others (Hagood and Lassey, 1979). The PRI design provided for deliberate creation of new professional roles--"program associates" in the parlance of the supporting organizations. A continuing education process was initiated to increase the competence of an expanding group of staff and participants from partner organizations.[1]

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[1]For example, an annual forum was initiated to provide training, education, and information to program staff as well as program related individuals from throughout the region. Training oriented staff meetings have been held on approximately a monthly basis since 1976.

Maintenance of staff neutrality toward the values and priorities of individual groups or organizations has been a key role attribute, since partisanship would have quickly alienated group and organizational members who disagreed with selected values. Furthermore, development of skilled group process facilitators, who help member organizations and the collaborative network achieve valued goals, was a critical element of the emerging PRI model (Luther and Broglio, 1978).

Leadership development was emphasized as a means of increasing the knowledge, skills, and problem solving capacity of all participants, but particularly residents of rural regions. W. K. Kellogg Foundation supported programs have a long tradition of leadership training, many parts of which are directly applicable to the PRI model (Howell, Weir, and Cook, 1979). Development of competent leaders who feel confident and able to carry on projects initiated through PRI intervention has been a basic feature of local projects. Many of the training events contribute directly to local leadership development, while also supporting role development for professional staff.

Organization development, in this context, refers to strengthening the internal capacity of collaborating organizations to contribute more effectively to rural development. Most of the organizations involved in the PRI network have resources to offer, but they had not been internally structured so that faculty or staff could readily divert their time and resources to rural improvement projects. Deliberately structured organizational development procedures were instituted to help re-organize programs, re-direct reward systems, and draw faculty and staff toward opportunities for application of their unique knowledge and skills to resolution of rural issues (Hagood, Cronland, Lassey, Pelton, and Young, 1980).

New Linkages

If collaboration was to occur effectively, opportunities were required to provide for deliberate interaction among college or university faculty, staff from collaborating agencies or institutions, and interested local citizens. Such interactions were initially designed to create the basis for mutual learning and stimulation of interest in program goals. The PRI model has used settings such as coordinating committees, retreats, annual forums, task forces, and more recently, faculty fellowships as methods of stimulating the interchange among faculty, staff, and citizens from an assortment of organizations and communities (Hagood and Lassey, 1979).

Formal networks are a direct consequence of each of the activities described above. That is, selected representatives from the sponsoring organizations have been formed into a regional coordinating committee which oversees the operation of the PRI program. The larger region is subdivided into four smaller regions, each of which has a formal coordinating committee of organizational and community representatives. New formal networks have been created within each of the collaborating organizations to oversee internal program related activity and maintain social exchange with other organizations.

Task forces have been created as formal networks to deal with specific issues (such as railroad abandonment, continuing education, rural transportation, etc.). A formal network also exists among the designated staff of each organization who have specific responsibility to PRI. This staff network has, among other responsibilities, the obligation to nurture all program related formal and informal networks.

The formal networks have led to strong and continuing linkages among organizations and individuals. The existence of a "linkage" suggests a level of personal and organizational commitment to collaborative activity which is stronger and more salient to the actors than is normally obtained within formal networks based upon structured social exchange. The PRI approach is often referred to as a "linkage model" because of the deliberate emphasis upon the forging of durable relationships among individuals, groups, organizations, and communities (Luther, 1981).

Social System Development

Linkages among organizations and within rural regions have led to the formation of issue oriented working teams. Procedures and reward systems have been created to support faculty, staff, and local leaders who work collaboratively on issue resolution. The capacity to form cross-organizational and interinstitutional working teams offers potential for focusing advanced knowledge and skills on issues of significance to the region (Larson, Madden, and Moe, 1980).

Community development in eastern Washington is, of course, not limited to those selected activities with which PRI is associated. However, the sequence of process, structure, and knowledge/skill building activities described here provides a considerably strengthened capacity for systematic community development. It is now possible to increase the issue resolution capacity of any collaborating community. Although time constraints pose a constant problem, the PRI network substantially facilitates the use of knowledge, skills, and other resources available in (or accessible to) the fifteen-county region.

Interorganizational development is a direct consequence of strengthened linkages. Several organizations can now work effectively as one unit in dealing with an issue or a set of issues. A current illustration is the concerted effort of several organizations and jurisdictions to deal with a major growth impact caused by new energy and mineral development in one of the counties in the region. PRI is viewed as largely neutral in circumstances which are highly charged with special interest preferences and controversy among organizations. The interorganizational mechanism created through the model is often the only unit that is viewed as "trustworthy" by the several communities and jurisdictions responsible for management of this major regional development issue (PRI, 1981).

Intercommunity development implies that several communities in proximity proceed collaboratively in resolving issues. Linkages were deliberately developed between several communities as part of the energy and mineral development case above, thereby providing the opportunity for pooling resources. Community collaboration contributed to a regional approach to planning and management, overcoming some of the disadvantages associated with segmented, and often initially damaging, community development undertaken exclusively on a community-by-community basis.

Intercommunity development helps insure that the broader socio-environmental setting is more likely to be considered in the processes of planning, development, and growth management. The multi-community approach appears to improve the likelihood, in the long run, of a generally enhanced quality of life and biophysical environment for the eastern Washington regions.

Knowledge and Skill Cumulation

Research and evaluation have provided critical contributions to the continuous testing of what is clearly a dynamic model. Evaluation studies have led directly to modification and adaptation of the PRI program over time (Larson, Madden, and Moe, 1979, 1980). Systematically collected evidence has been a major basis for decisions on the effectiveness of actions taken and assessment of the overall design. Nonetheless, considerable opportunity remains for the conduct of scientific research and evaluation to accumulate further knowledge about rural development and improve the quality of programs provided through the PRI network.

Rural Development and Public Policy

Implementation of the PRI model has broadened and improved the quality of functional interaction between institutions of higher education and the rural regions of eastern Washington. Many public agencies--county, state, and federal--as well as private units and community groups have been involved in new programs. As a partial consequence, they have typically developed improved policies toward the rural regions with which they work.

Unfortunately, no data have yet been collected to indicate the degree of impact on rural policies and programs on a statewide or national basis. Nonetheless, considerable diffusion of information has occurred, through personal contacts, professional presentations at meetings, distribution of publications, and through other media. There is, however, no formal basis for asserting that the PRI model has affected change or improvement in rural policies and programs outside the immediate impact region. The series of papers and publications already available, or now in preparation, will undoubtedly assist the diffusion process.

The changes which indicate incidence of rural development may be in the form of increased knowledge, new skills, better decisions about the use of local resources, improved planning procedures for counties or communities, new community education programs, improved status for rural women, video-taped history of an indigenous Native American population, new business or industry, or a wide variety of other improvements. Some of these results may obviously have occurred without the intervention of PRI. Nor is there any intent to suggest here that failures of specific projects have not occurred. Several efforts at community planning, for example, have clearly not been altogether successful. Other projects, which appeared to have considerable merit in their early stages, later did not produce satisfying results. Despite this occasional lack of success, the overall model appears to be viable in eastern Washington.

CONCLUSIONS

Rural development has been characterized as primarily a "policy goal" justified by "normative arguments," rather than a theoretical concept. Furthermore, theory and research on rural development are often referred to as tools which should increase our understanding of the social causes and consequences of changes in rural areas (Copp, 1972; Hobbs, 1980). These represent practical viewpoints to which this paper attempts to respond. But our goal has also been theory oriented in the sense that well-grounded theory is conceived of as highly practical, while the absence of theory leads to descriptive analysis which does not necessarily enhance understanding. Much of the recent literature on rural development is characterized by these inadequacies.

We have therefore attempted to construct and initially test a "middle range" theory. Theory construction has led us to a model derived from both social science research findings and evaluated experience with a major rural development project. The theory incorporates three major dimensions: (1) process, or a sequence of linked and causal activities; (2) structure, or an organizational system through which the process operates; and (3) functions, or required activities which systematically apply knowledge and skill to resolve issues and which are embedded in a formalized process operationalized through a complex organizational structure. The three dimensions are presented and discussed as interdependent, necessary, and sufficient components to cause policies and actions which can be termed rural development.

The resultant enterprise--The Partnership for Rural Improvement--generally incorporates each of the criteria delineated for optimum problem solving model characteristics (Havelock and Huberman, 1977:69). It is highly interconnected, cohesive, need sensitive, uses its resource inputs efficiently and effectively, demonstrates the will and capacity to support an active program, maintains a process and structure conducive to problem solving activities, has the capacity to monitor and rank its outputs, has a capacity to use its output indicators for re-organizing future goals and methods, and is open to change based on reliable and valid research, evaluation, impact assessments, and experience.

Prima facie evidence aside, however, additional work is needed on "efficient and effective use of resource inputs." The model does not draw as widely from university and public agency resources as evaluation findings deem desirable. New activities such as "faculty fellowships" and "task forces" have been instituted in the fifth year of the program to strengthen resource input.

Monitoring and ranking of outputs, use of output indicators, and reliability and validity of measurements could also benefit from further emphasis (Larson, Madden, and Moe, 1980).

Several generalizations have been at least partially verified during the experimental period since the Partnership for Rural Improvement was initiated in 1976:

1. Intervention as a procedure for initiating development in a rural region is more likely to be successful if preceded by socio-environmental analysis, need sensing, and local knowledge and skill assessment;
2. Assuming prior analysis, sensing, and assessment, successful intervention is even more likely to occur if positive and negative sanctions can be manipulated in the process of social unit development--that is, group dynamics, group development, professional role development, leadership development, and organizational development. Social unit development will benefit from access to a knowledge and skill pool which has capacity for scanning, processing, disseminating, and utilizing appropriate knowledge and skill;
3. Social unit development will lead to network development--social exchange between individuals, groups, and organizations--and stronger linkages between collaborating social units; knowledge and skill inputs will be integrated as social exchange occurs and linkages are strengthened;
4. New and strengthened linkages will lead to social system development--new collaborative teams, interorganizational development, community development, and intercommunity or regional development;
5. Social system development will be enhanced or re-enforced if knowledge and skill cumulation occurs--through research, evaluation,

social impact assessment, environmental impact assessment, and enhanced capacity for knowledge or skill production, storage, and scanning;

6. Cumulation of knowledge and skill will lead to rural policy development, rural development, and enhanced quality of human life and the biophysical environment; and
7. The prior generalizations are heavily dependent upon an improved system for knowledge and skill cumulation which takes greater advantage than heretofore of knowledge sources, integrative procedures, and utilization requirements.

Each of the generalizations suggests rather specific behavior (or behavioral change) for those individuals and organizations with responsibility for rural development. Experience with the PRI model in eastern Washington suggests firmly that such behavioral changes can be successfully undertaken. The land grant university system can assume leadership, but is more likely (than would otherwise be the case) to achieve successful rural policy and development outcomes <u>if</u> activities leading thereto are collaboratively undertaken with other accessible sources of knowledge and skill; a more adequate and comprehensive process and structure can then be developed to assist rural regions.

Although the model, and subsequent generalizations, are grounded in research, evaluation, assessment, and experience, a program of additional research is clearly called for. Further and more detailed measurements of each dimension of the model would help to verify the generalizations, while refining the underlying "middle range" theory. Further analysis may

eventually lead to a "full-blown" theory which can serve as the basis for systematically intervening in a great variety of rural regions so as to further improve the process, structure, and substantive actions taken by organizations on behalf of rural people, their social support system, and the biophysical environment.

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